

Extremal holomorphic maps in special classes of domains

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Abstract. In this paper we discuss three different notions of extremal holomorphic mappings: weak m -extremals, m -extremals and m -complex geodesics. We discuss relations between them in the general case and in the special cases of the unit ball, the classical Cartan domains, the symmetrised bidisc and the tetrablock. In particular, we show that weak 3-extremal maps in the symmetrised bidisc are rational, thus giving a (partial) answer to a problem posed in a recent paper by J. Agler, Z. Lykova and N. J. Young ([4]).

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